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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,658	02/18/2004	Masato Ueno	01-559	8932
23400	7590	05/22/2006	EXAMINER	
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			LOUIE, WAI SING	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/779,658

Applicant(s)

UENO ET AL.

Examiner

Wai-Sing Louie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winterer et al. (US 6,313,729) in view of Kang (US 5,993,735), Kleinhans et al. (US Pub. 2001/0015089), and Chen et al. (US 6,765,277).

With regard to claim 1, Winterer et al. disclose semiconductor device (col. 3, line 38 to col. 5, line 67 and fig. 1) comprising:

- a conductive member 7 (fig. 1);
- a sensor chip 6 for detecting a pressure and generating an electrical signal corresponding to the pressure (col. 4, lines 51-61 and fig. 1);
- a bonding wire 21 electrically connecting the sensor chip 6 and the conductive member 7 (fig. 1);
- a protective member 32 having characteristics of electric insulation and plasticity and covering the sensor chip 6 and bonding wire 21 (col. 5, lines 40-61 and fig. 1);
- Winterer et al. show a bonding pad provided on a surface the sensor chip 6 (fig. 1), but do not disclose the bonding pad is formed of aluminum base material.

However, Chen et al. disclose a bonding pad 15 formed on a surface of a microelectronic chip 10 (Chen col. 3, lines 26-34 and fig. 5). Chen et al. teach the bonding pads are often corroded that would degrade the bonding pads. Therefore, it would have been obvious to one of ordinary skill in the art to modify Winterer's device with the teaching of Chen et al. to provide an aluminum bonding pad in order to prevent corrosion of the bonding pad;

- Winterer et al. do not disclose the bonding wire is formed of an alloy of Au and Pd. However, Kang disclose the bonding wire is formed of an alloy of Au and Photodiode (Kang Table 1). Kang teaches the addition of Pd which causes the tensile strength to be increased and make it possible to prevent bending or curving after bonding (Kang col. 2, lines 37-42). Hence, it would have been obvious at the time the invention was made to modify Winterer's device with the teaching of Kang to form of an alloy of Au and Pd in order to increase in tensile strength and make it possible to prevent bending or curving after bonding;
- Winterer et al. disclose the carrier 5 is filled with gel 32 (col. 5, lines 40-52), but do not disclose the gel is fluorine gel. However, Kleinhans et al. disclose the sensor chip 3 is coated with fluorine gel (paragraph [0020]). Kleinhans et al. teach the protective mechanism, fluorine gel, protects the circuit surface against corrosion of the metallic parts (paragraph [0013]). Therefore, it would have been obvious at the time the invention was made to modify Winterer's device with the teaching of Kleinhans et al., Chen et al., and Kang to provide a protective member

formed of fluorine gel in order to protect the circuit surface against corrosion of the metallic parts.

With regard to claim 2, Winterer et al. modified by Kang disclose the diameter of bonding wire is 33  $\mu\text{m}$  (Kang col. 3, line 34).

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winterer et al. (US 6,313,729) modified by Kang (US 5,993,735), Kleinhans et al. (US Pub. 2001/0015089), and Chen et al. (US 6,765,277) as applied to claim 1 above, and further in view of Mizuno (US 5,101,665).

With regard to claim 3, in addition to the limitations disclosed in claim 1, Winterer et al. modified by Kang and Chen et al. also disclose:

- Winterer et al. modified by Kang and Chen et al. do not disclose a circuit chip for processing the electrical signal from the sensor chip and an additional bonding wire electrically connecting the circuit chip. However, Mizuno discloses an IC chip 11 in the pressure sensor chip package 15 connected with bond wire 21 (Mizuno fig. 3). Mizuno teaches the IC chip is for communicating to a circuit outside of the semiconductor pressure sensor (Mizuno col. 3, lines 18-24). Thus, it would have been obvious for one with skilled in the art to modify Winterer's device with the teaching of Kang, Chen et al., and Mizuno to provide an IC chip in the pressure sensor package in order to communicate to the outside circuit.

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With regard to claim 4, Winterer et al. modified by Kang disclose the diameter of bonding wire is 33  $\mu\text{m}$  (Kang col. 3, line 34).

***Response to Arguments***

Applicant's arguments filed 3/21/06 have been fully considered but they are not persuasive.

- Applicant argues that Winterer et al. do not disclose a protective member formed of fluorine gel. However, Winterer et al. modified by Kleinhans et al. would meet this limitation. Please see the rejection above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wai-Sing Louie  
Patent Examiner

Wsl  
May 16, 2006.